Table A1: Summary of porewater filterable reactive phosphorous (FRP) and NO_X concentrations for Western Port field sites over the period February – November 2016.

Field Site	February 2016		March 2016		May 2016		July 2016		November 2016	
	[FRP] μM	[NO$_X$] μM	[FRP] μM	[NO$_X$] μM	[FRP] μM	[NO$_X$] μM	[FRP] μM	[NO$_X$] μM	[FRP] μM	[NO$_X$] μM
	Mean ± SD									
Corinella	0.6 ± 0.0	0.2 ± 0.4	0.4 ± 0.2	1.2 ± 1.5	0.3 ± 0.0	0.2 ± 0.4	0.3 ± 0.0	0.7 ± 0.7	0.8 ± 0.2	2 ± 2
Coronet Bay	0.6 ± 0.0	1.8 ± 0.5	0.6 ± 0.0	1.8 ± 0.5	0.4 ± 0.2	0.7 ± 0.7	0.3 ± 0.0	0.2 ± 0.4	0.3 ± 0.0	2.4 ± 1.1
Rhyll	0.3 ± 0.0	0.7 ± 0.5	1.2 ± 0.7	1.2 ± 1.1	1.1 ± 0.7	0.2 ± 0.4	0.6 ± 0.3	0.7 ± 1.2	1.0 ± 0.3	20 ± 40

Table A2: Output of two-way ANOVA for porewater NH_4^+ concentrations in Western Port.

Source	dF	F	P
Site	2	11.603	**<0.001***
Season	4	4.425	**<0.01***
Site × Season	8	3.618	**<0.01***

5 **Table A3:** Summary of porewater filterable reactive phosphorous (FRP) and NO_X concentrations for the Port Phillip Bay field sites over the period August – December 2016.

Field Site	August 2016		December 2016	
	[FRP] µM	[NO$_X$] µM	[FRP] µM	[NO$_X$] µM
	Mean ± SD			
Altona	5 ± 4	1.2 ± 0.8	10 ± 6	7 ± 6
Blairgowrie	2.8 ± 0.7	1.2 ± 0.4	2.4 ± 0.5	2.6 ± 1.1
Kirk Point	44 ± 18	1.2 ± 0.4	30 ± 20	0.2 ± 0.4
North Corio	16 ± 3	2.1 ± 0.7	7.4 ± 1.1	0.2 ± 0.4
Portarlington	5.0 ± 0.2	1.7 ± 0.4	19 ± 13	0.7 ± 1.2
Rosebud	3.4 ± 1.0	1.2 ± 0.8	6 ± 2	30 ± 40
St Kilda	8.4 ± 0.9	5 ± 2	30 ± 30	1 ± 1
St Leondards	8 ± 4	2 ± 2	4 ± 1	3 ± 1
South Corio	5.9 ± 1.2	1.4 ± 0.7	6.4 ± 1.1	0.7 ± 0.7
Swan Bay	4 ± 3	1.0 ± 0.8	6 ± 2	0.0 ± 0.0

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Table A4: Output of two-way ANOVA for porewater NH_4^+ concentrations in Port Phillip Bay.

Source	dF	F	P
Site	9	8.047	**<0.001***
Season	1	4.664	**0.037***
Site × Season	9	2.051	0.058

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Table A5: Output of two-way ANOVA for $\delta^{15}N$ seagrass in Western Port.

Source	dF	F	P
Site	2	191.55	**<0.001***
Season	4	30.57	**<0.001***
Site × Season	8	10.52	**<0.001***

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Table A6: Output of two-way ANOVA for $\delta^{15}N$ seagrass in Port Phillip Bay.

Source	dF	F	P
Site	9	399.804	**<0.001***
Season	1	0.894	0.350
Site × Season	9	47.499	**<0.001***

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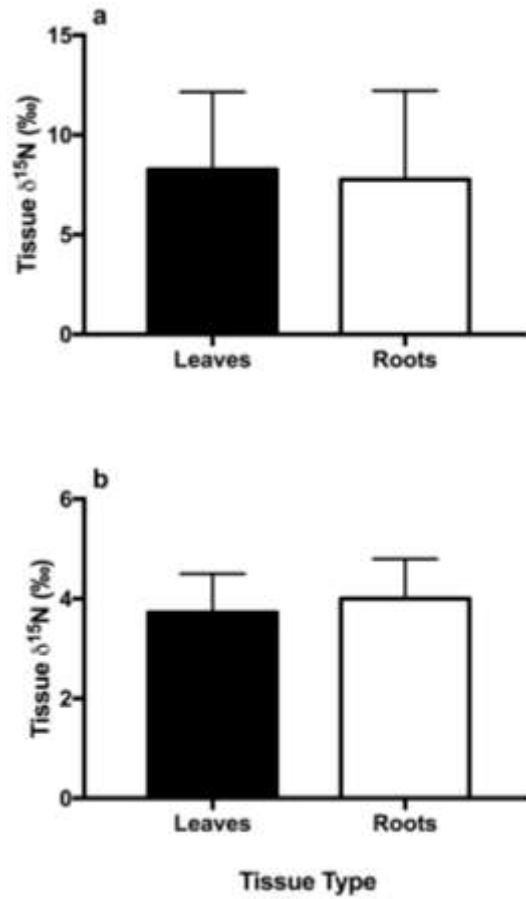
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Figure A1: Comparisons between the δ¹⁵N of the seagrass roots and the δ¹⁵N of the seagrass leaves for (a) Port Phillip Bay and (b) Western Port. All values are mean ± S.D.